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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)  
TS 6377 (US)

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on 12 March 2007

Signature

Typed or printed name Eugene R. Montalvo

Application Number

10/621,823

Filed

07/17/2003

First Named Inventor

Johannis J Den Boer

Art Unit

1725

Examiner

Clifford C. Shaw

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

 applicant/inventor. assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96) attorney or agent of record.Registration number 32,790

Signature

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Telephone number

 attorney or agent acting under 37 CFR 1.34.Registration number if acting under 37 CFR 1.34 

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

 2\*Total of 2 forms are submitted.

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TS6377US  
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*Eugene R. Montalvo*  
Eugene Montalvo  
Date: 12 March 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	)	
Den Boer, Johannis Josephus et al.	)	
Serial No. 10/621,823	)	Group Art Unit: 1725
Filed July 17, 2003	)	Examiner: Clifford C Shaw
METHOD FOR INTERCONNECTING TUBULARS BY FORGE WELDING	)	12 March, 2007
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COMMISSIONER FOR PATENTS  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Dear Sir:

Attorney for Applicant in the above-captioned application hereby requests pre-appeal brief review of the Final Office Action mailed 11 December 2006. At the time the Office Action issued, claims 1 to 14 were pending. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The reasons for requesting review are set forth starting on the next page.

## REASONS

In Numbered paragraph 3 of the Final Office Action, claims 1, 2, 4, 6, and 9-14 have been rejected under 35 USC § 103(a) as being unpatentable over Moe (US Pat. 4,736,084) taken with Liady (US Pat. 1,260,690).

The rejection states that Figure 1 and the discussion at columns 2-3 of the patent to Moe discloses a method of joining tubulars wherein a reducing gas is flushed around the heated tubular ends and the ends of the tubulars are forged welded. It is then acknowledged that the claims differ from Moe in calling for tubular ends with a non-planar shape, and more specifically with a sinusoidal or toothed shapes. The Office Action then alleges that this differences does not patentably distinguish over the prior art, because it would allegedly have been obvious to have provided the tubulars in Moe with the end shapes claimed, the motivation being the teachings of Liady that such are advantageous for welding tubulars (see Figures 1-4 in Liady).

Attorney for Applicant had respectfully traversed the rejections, and argued that the Examiner has failed to provide a *prima facie* case of obviousness because of a lack of motivation to combine Moe with Liady.

These are the relevant facts:

Fact 1: Moe teaches a method for heating metal elements which are to be joined, for example by forge welding.

Fact 2: In Moe's heating method a gap is defined between the surfaces to be welded and a current is passed through the metal elements along the surfaces defining the gap. (Col. 2 line 33). Moe expressly teaches that it is important that the gap surfaces are positioned close to each other, but without being in physical contact with each other (Col. 2 lines 34-36).

Fact 3: Moe discloses that a variation in the gap width affects the uniformity of heating across the gap surfaces (Col. 3 lines 65 to 68). Moe teaches using radial variations in the gap width to give a more favorable current distribution across the two gap surfaces, so as to allow for a uniform and concentrated heating thereof. Also in Col 3 lines 44-53, the radial variation of gap width is taught to compensate for the preference of the electric current to flow in a straight line across the gap surfaces between the contacts such as to increase the uniformity of heating.

Fact 4: Liady discloses an interlocking pipe weld. Pipes with scallops formed with circular gullets and circular teeth of substantially the same arc described by the same

radius (page 1 lines 42-45), are interlocked. After interlocking, they are welded by means of any suitable welding process, such as oxy-acetylene process and the like (see page 1 lines 83-86).

There are two reasons why the person skilled in the art would not have motivation to combine the teachings.

First reason:

It follows from Fact 4, that Liady first interlocks the pipe ends before heating. The pipes are brought into contact and welded, which requires heating. Oxy-acetylene welding processes, and the like, require a physical contact between the pipe ends.

It follows from Fact 2, that Moe's heating method requires a gap without physical contact.

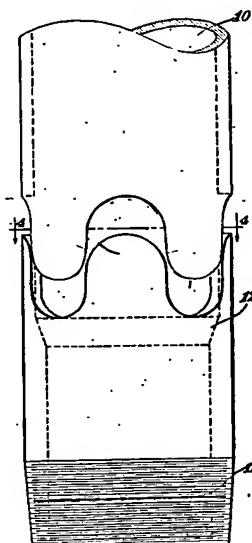
Since Liady requires interlocking, implying physical contact, and Moe requires a gap, Moe does not teach a suitable welding method for Liady's interlocking pipe welds.

Second reason:

Assuming that Liady does not require a physical contact, the skilled person would still not find motivation to apply Liady's interlocking pipe ends on Moe's heating technique.

Examiner has asserted that the motivation would be the teachings that Liady's end shapes are useful for welding tubulars in order to produce a stronger weld. However, notwithstanding, the person of ordinary skill in the art would see a teaching in Moe against using Liady's end shapes that outweighs any asserted advantage.

Attorney respectfully submits that Liady's end shapes inherently result in a significant variation in gap with around the circumference of the tubes, as is evident from the following drawing (based on Liady Figs 1 and 2):



However, it follows from Fact 3 that Moe teaches radial variations in gap width in order to improve the uniformity of heating (or, in effect, uniformity of current distribution) by countering the natural tendency of the current to choose the shortest path between the electrodes.

Liady's teaching necessarily introduces circumferential variations that clearly make the uniformity of current density - hence heating - worse. As such, Liady necessarily goes against Moe's teaching and therefore it would not have been obvious to apply Moe in view of Liady.

Examiner seems to have wanted to suggest, in the last sentence of Numbered paragraph 7 in the Final Office Action, that the skilled person would have shaped Liady's toothed end surfaces to maintain the gap used in Moe's method. However, it is respectfully submitted that any circumferential corrugation in the end faces gives rise to a variation in gap width in such a way that the current density, and thus the heating, becomes less uniform. Thus modifying Moe using Liady would always go against Moe's teaching, and that is why the skilled person would have been deterred from combining Liady's teaching with Moe's.

In the present case, the advantages of using the toothed end surfaces of Liady do provide sufficient motivation to combine with Moe, because of the fundamental problems that the same toothed end surfaces are expected to present when applied to Moe's welding technique that relies on gap width for uniform current distribution.

MPEP 2141.02-VI states:

A prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention.

And MPEP 2145-X-D3 states:

[k]nown disadvantages in old devices which would naturally discourage search for new inventions may be taken into account in determining obviousness.

Moe does not complain about the strength of the joints, but it does teach the importance of uniformity and even introduces some radial variation of gap width to improve uniformity. Since Moe does not complain about the strength of the joints, the skilled person would be naturally discouraged to search for ways to improve the strength of the joints, and in particular he would be discouraged to modify Moe with technology that goes against Moe's teachings of uniformity.

In conclusion, the person of ordinary skill in the art would not find sufficient motivation in the art to combine Moe with Liady, because the potential benefit of such

combination is offset and outweighed by fundamental incompatibilities between Moe and Liady.

Thus, the Examiner has not established a *prima facie* case of obviousness, for lack of motivation to combine the cited references.

The Office Action also cites Moyer (US Pat. 2,719,207); Rothschild (US Pat. 2,497,631); Moe (US Pat. 5,721,413); and Hitz (2,998,646), but none of these have been applied to claim 1. It has been set forth in our earlier Response letter, sent 28 September 2006, that none of these references remedy the lack of motivation to combine Moe with Liady nor give rise to *prima facie* obviousness of claim 1 in any other way.

Since every other pending claim ultimately depends on claim 1, no *prima facie* case of obviousness has been established against any of the dependent claims, either.

For these reasons, Attorney for Applicant respectfully requests that the rejection of all pending claims under § 103(a) be withdrawn and the claims formally allowed.

Respectfully submitted,  
Johannis Josephus den Boer *et al.*

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